

the present Mines Act discovery is essential. If the Government inspectors are not shown satisfactory evidence of discovery they are in duty bound to throw out the claim. This is an integral part of the Mines Act. Its operation has entailed hardships. It is by no means a perfect law. But it is law and is accepted and must be lived up to.

That the Mines Act is perfect is not claimed even by those who framed it. That the administration of the Department of Mines has been flawless is not to be urged for a moment.

On the other hand we speak whereof we know when we say that the inspectors, upon whose shoulders falls the onus of carrying out the letter of law, are straight-going, carefully selected, professional men. For the benefit of the Globe we may add that these inspectors are chosen with absolutely no reference to politics. This is a rare and valuable feature and has an important bearing upon the administration of the law. Indeed it goes far towards rectifying manifest imperfections in present legislation.

The last few years have witnessed an expansion in the mineral industries of Ontario, for which the discovery of Cobalt is not wholly responsible. And the Bureau of Mines has done notable work before and since that epoch-marking discovery. Ontario does not lose by comparison with any other province of the Dominion. Let its Department of Mines be measured by these standards, and not by the criminally irresponsible abuse of the Globe.

There is in the far west a weekly that makes no pretensions to piety. Its humor is unconventional, possibly a trifle mediaeval. Often its columns are frankly objectionable. We need not make the comparison more invidious by giving the name of this knight-errant of journalism. But we may be allowed to express an open preference for the outspoken honesty of the western sheet as opposed to the unscrupulous, bitter, and deplorable partisanship of the psittaceous Globe.

SLOCAN ZINC ORES.

It is reported that, after long deliberation, the Supreme Court of the United States has reversed the decision of the Board of Appraisers in regard to the dutiability of zinc sulphide. This will end the interminable discussion as to the interpretation of the word "calamine." Whilst the appraisers were technically right in objecting to the classification of zinc sulphide as calamine, yet the logic of the situation demanded equal rights for either the carbonate, the silicate or the sulphide of the metal. Therefore the 20 per cent. ad valorem duty on zinc ores entering the United States from Canada is no longer to be collected.

From the Slocan zinc concentrates have been shipped as far as Wales. The United States smelters, however,

have been the principal purchasers, and it was at the instance of the latter that the present question of duty was taken up and settled.

The difficulty has not been without incidental benefit. The Canadian smelter, now about to commence operation near Nelson, will aid in the development of the Slocan, especially in the case of small shippers. The removal of the ad valorem charge will encourage competition.

TWENTY YEARS' PROGRESS IN SOUTH AFRICA.

The recently elected president of the Institution of Mining and Metallurgy, Mr. Alfred James, in his inaugural address summarized the advances and improvements in the methods of mining and milling South African gold ores. Mr. James entered upon his first professional engagement in South Africa twenty years ago. His review covers the intervening period.

Twenty years ago the metallurgy of gold received but scant attention. Technical papers on the subject were rare. Practice generally was crude and mining and milling methods were largely rough and ready. In South Africa operators were confronted with the problem of extracting the gold from heaps of tailings assaying in places as much as 1 ounce per ton.

The advent of American mining engineers not only brought about an era of elaborate and expensive installations, but induced a spirit of eager competition that reacted beneficially upon all concerned. It is noteworthy that the best of the British engineers have more than held their own ground.

Amongst other evidences of change and improvement it may be noted that in 1888 comparatively few gold mines employed assayers. To-day the metallurgist is supreme. But success was gradual. The first filter presses were failures. Now they are an acknowledged necessity. Like instances are not wanting.

Mr. James sums up, as worthy of notice, the following improvements in mining and milling:

The sorting of waste rock from reef matter to be milled.

The use of separate crushing stations containing high capacity crushers.

The general adoption of mechanical transport for the ore from the mine to the mill.

The provision of bins of great storage capacity to provide against breakdown in mine or hoisting engine.

The provision of special water supply—usually with its acidity neutralized—for the mill.

The use of heavy stamps. In place of 850 pound stamps and a per diem output of 1½ to 2¼ tons per stamp, 1,500 pounds to 2,000 pound stamps with a capacity of 6 to 10 tons per stamp are not uncommon.